1981

Wilmington Boulevard:

History and Historical Research Methods

An archaeological investigation is like any other inquiry into the passage of human affairs. The research team must somehow address the six big questions which journalism has appropriated but which form the structure of any narrative: who, what, when, where, why, and how. In the case of an archaeological inquiry, and especially of a mitigation project, "where" is given: it is the site, the impacted area. The field archaeologist usually takes charge of the "what" and the "how". In all but a few rare instances, that member of the team is the person best suited by reason of method of inquiry to handle those questions. It is the historian's job, then, to provide at least the "who" and the "when", and perhaps part of the "why".

The methods for handling these questions are complicated enough in isolated or rural situations such as a farmstead, a boat landing, or pernaps even a site in a small village, but they are straightforward. The chances are that a thorough - I emphasize thorough - history of an isolated site will provide enough peripheral information about the surrounding community that the site can be placed into its proper social and economic context without much extra effort.

In a city, however, although the questions remain the same, the method and approach must necessarily be different. A site in a city cannot really stand alone. In the abstract, of course, no site can stand alone, but unlike with an isolated site, one can thoroughly research a specific urban location and still wind up with no sense of context, and no way to relate the excavated location to its neighbors except in the most general and speculative of terms.

A city is an organic whole. The best urban history and archaeology projects of the last decade have recognized this. It is unconscionable to limit the historic background investigation of an urban site to just the specific location being excavated. The City of Alexandria project recently stated the situation succinctly: "In urban archaeology a single area or group within a city should not be the sole object of study, nor should a settlement pattern be viewed as an independent variable. A more productive approach...is to view an archaeological area of inquiry...as dependent upon changes within the city-site as a whole."(p2 grant proposal)

Investigators working in some cities, notably Boston, Philadelphia, and New York on the East Coast, and Chicago and San Francisco in the west, have the advantage of being able

to use ten or fifteen years of work by scholars whose point of view derives from the so-called "New Social History" and "New Historic-Urban Geography". These scholars have addressed many of the same questions which anthropologically oriented archaeologists have come to consider their particular bailiwick: what is the structure and function of social divisions in historic times? How were these matters manifested in the material culture of the participants? How did change in one aspect of socio-economic structure produce or inhibit change in other aspects? And so on. one need not be terribly familiar with this literature to appreciatate its relevance to historical archaeology.

Wilmington, however, is not so lucky. This city has been blessed with only one scholarly history in this century, and that was written by a historian whose orientation is derived from classic institutional and political historical tradition. By the way, this is not to condemn such works for not being something else, but to point out that the issues the classic historian chooses to address are not especially what archaeologists need. That sort of history performs its most useful function for our purposes as a guidepost, pointing out periods of governmental change and institutional reorientation which probably reflected or initiated changes -or both- in social structure and cultural process which

archaeologists are supposed to want to investigate. So, in the absence of any body of secondary literature from which a cultural context could be synthesized, we had to start the Wilmington historical background work from square one.

The historical background had to fulfill two functions. At the most rudimentary level, it had to provide the specific details of property ownership and use which the field crew needed to guide their daily decisions and which the people in the laboratory could use as a check against their analysis of the recovered material. A more challenging and more sophisticated task was to provide a city-wide context across a long span of time into which the entire project area could be placed. Because of circumstances beyond anyone's control, we began the basic historical background work simultaneously with the field work, which was a less than ideal situation. This work included compiling copies of insurance maps and other maps which showed historic building locations and features. These included a 1736 map which showed perhaps half of the houses in the town at that time and which is the earliest map of Wilmington. the 1868 Beers Atlas. Baist's 1878 insurance map, and Sanborn insurance maps from the late nineteenth and early twentieth centuries. At this point we concentrated the primary source investigations on the eighteenth and early nineteenth centuries, so that we could

determine when specific blocks in the project area were developed and when lot size and use stabilized. At that time we were really doing work which should have preceded any in-ground investigation, so we were under some pressure to provide specific details quickly. We thus left the latter half of the nineteenth century to Messrs. Beers, Baist, and Sanborn.

At the same time, we began to develop a strategy for attacking the whole body of Wilmington's historical data, which is considerable. Wilmington, and all of Delaware, are blessed with virtually complete land ownership records. These include deed records and court records which begin in the mid-seventeenth century; and beginning in early years of the nineteenth century, fairly thorough assessments at irregular but roughly fifteen-year intervals. Wilmington's 1845 assessment is particularly useful. Complete records of the city's government, from its first Borough charter to the present, describe public works and public problems such as sanitation, health, and animal control. Of particular interest are eighteenth and early nineteenth century "Street Regulations", which are tables of ascent and descent from street corner to street corner within the town. These permitted reconstruction of Wilmington's historic topography, which did influence settlement patterns as the city

developed.

City directories exist for the years 1814, 1845, and from 1853 to thepreseent. These directories give the name, address, occupation,sex, and through 1870, race of each head of household at each discrete address, in alphabetical order by name. Later directories are cross-indexed by address. There are also census records, which begin in 1800 for Delaware (1790 was lost and the reconstructions are not reliable). These proved less useful than the directories, as they do not list addresses. Add to this pile the private records such as organization minutes and membership lists, company records, and church and school records. contemporary accounts and newspaper advertisements. and incidental public records such as police and welfare records, and the historian soon begins to suffer from an embarrassment of riches.

Certain of these groups of records could be eliminated fairly easily from consideration. In tne comparatively restricted world of mitigation archaeology, one must resist the temptation to worry too much about determining such things as correlations between educational level and artifact usage, for instance, even though those correlations might very well contribute to the understanding of historic American culture. Similarly, patterns of personal association, group membership, criminality, dependence, and

intermarriage had to be relegated to a very tertiary position or dropped altogether from the list of potential subproblems, no matter how interesting they might be.

Instead we concentrated our search on those groups of documents which most directly related to land ownership and land use. These were the deeds, the directories, and the 1845 assessment. Certain other records, notably the special censuses, the city government records, and some nineteenth-century anecdotal histories, provided valuable supplementary information. Even after eliminating the peripheral records groups, however, we still had quite a lot of documents to search. Wilmington was founded before 1735, and received its Borough charter in 1740. From the city's founding until the project cut-off date of 1900 is about 170 years.

The preliminary data on the project area blocks suggested that it was, at least until the last quarter of the nineteenth century, a sort of thin-section of the city's social geography. The area seemed to cut across several types of neighborhoods, with differing periods of development and showing differing types of land use. We therefore decided to sample the records in a way that was roughly analogous to the excavation strategy. We did a thorough, year-by-year search

of the land records on the project area blocks, to produce continuous histories of each block. We also recovered the same information on property transactions across the whole city at ten-year intervals, and from property records on land outside the city involving Wilmington residents. We used a 100% sample for the decennial years from 1740 through 1820, and a 50% sample for the years from 1830 through 1860. After 1860, most valuable social information disappears from the deed records but can be recovered from other sources. These samples gave us a city-wide context which we could directly compare with the project area data, and also provided a sense of the extent of Wilmington's direct sphere of influence and the direction of its hinterland.

Additionally, we analyzed random samples of aproximately 250 directory entries in each of the years 1814, 1845, 1860, 1870, and 1890. We had intended to include 1880, but a serious error in taking that sample rendered it unreliable. The directory entries provided information on living patterns of non-property-owning classes, and filled in the gaps in social and some economic data which developed in the deed records around 1860.

For the benefit of those who have never analyzed deed records, I would like to digress a moment. In the

seventeenth, eighteenth,and early-to-middle nineteenth centuries in America, it was customary to include a great deal of biographical information on the parties involved in a property transaction in the records of the transaction. * This form, which we developed to encourage if not assure standardized recording of deed information, lists all of the kinds of data which might be found in a deed. Very few individual deeds actually contain all of these data, of course. And most of the interesting identifiers such as occupation or marital status seldom appear in deeds which date later than 1860 - 1870.

Once we had all this information in hand, we subjected it to some rather basic statistical analysis, primarily frequency tabulation and chi-square tests, and where appropriate, Student's t-tests, analysis of variance and Pearson's correlations. We used a Commodore 2001 microcomputer equipped with the JINSAM Q database management system, which includes a fairly complete statistical package. The specifics of this system are the subject of another session, but I will be happy to talk shop privately with people who would like more details on the computer procedures.

Before I get into a discussion of what all this number

crunching produced, Iwould like to give you a very brief overview of Wilmington's history. The city began as the effort of a small group of private investors who seem to have deliberately set out to found a town. * In 1727, a local yeoman, Andrew Justison, acquired the farm just upstream from the traditional location of the Christina Ferry, which had been located here for about 75 years. Justison and his son-in-law Thomas Willing subdivided the Christina side of the farm into tracts of approximately four acres each, and sold them to 6 other investors in the very early 1730's. * First Division
(note Milner's lower tract & intersection of Front & Mkt)

The second quarter of the eighteenth century was a very active period for town building in Delaware. * A number of new towns were established favorable conjunctions of land and water transportation routes and some languishing older settlements were revitalized. These towns lay approximately along the alignment of US Route 13, which runs down what passes for a fall line in Delaware. By the way, this period also saw the maturation of the transition from a tobacco to a wheat economy in the Delaware and Chesapeake drainages, and the opening of the farmland along the Susquehanna.

"Willing Town" as the little settlement was called, languished for a year or two, with only very occasional sales

of town lots between 1732 and 1735. In 1735 and 1736, however, a wealthy Quaker from Chester County, Pennsylvania, William Shipley, bought the remainder of the farm and settled in the little village. He brought a number of relatives with him. * He established the first market, which was here, and seems to have been largely responsible for establishing this street grid and the setback line for the buildings. In the same year, Trinity Church began to let town lots on its glebe land, which was contiguous to Justison's former farm. These two events pushed Willing Town over the line from a venture in land speculation into a viable urban center.

When the village received its Borough charter in 1740, the name had been changed to Wilmington, ostensibly to honor the King's close associate the Duke of Wilmington. From that year onwards, the town's economy rose and fell - and mostly rose - with the economies of the colonies and later the nation. Wilmington's uniquely advantageous geography * topo allowed the city to weather a major transition from a shipping and mercantile center focused on the Christina to a manufacturing center focused on the Brandywine with a minimum of disruption at the beginning of the nineteenth century. The Brandywine was one of the first rivers in America to be extensively tapped for water power, and major textile, gunpowder, and flour mills were built along its

banks in the 1790's and 1830's.

A second shift in focus occurred with the building of the railroad in 1837. The develoment of steam power at that time was liberating heavy industry from dependence upon water power, and certain other major shifts in the national economy had aided the eclipse of the Brandywine valley as a manufacturing center. The railroad, however, enhanced the old land-route/water-route conjunction which had originally made the bank of the Christina an attractive site, and helped revitalize an old Wilmington industry, shipbuilding. It also brought in new industry in the form of railroad support facilities, railroad car and car wheel factories, and subsidiary machine, engine, iron, and tool works. These heavy industries located between the tracks and the Christina, and once again changed the city's focus. The Civil War gave Wilmington a shot in the arm, for the iron ships and railroads, and also the gunpowder factories a little out of town, were of high strategic value.

Power down

However, the refocusing of the railroad car industry from the east coast to the middle west and the maturing of the steamship industry, both of which occurred in the latter half of the nineteenth century, brought about some less favorable changes in Wilmington's economic base. These

changes began to be reflected in the city's social geography at least as early as 1890,but they would not mature until the 1910's and 1920's,when the city became the corporate center it is today.

Against the backdrop of these all-too-quickly described changes in Wilmington's ecnomic base, we set about to determine who had lived in Wilmington, and how the geographic distribution of the population shifted and changed as the city grew. Most specifically, we wanted to know how the project area blocks fared through these changes, and whether they could reasonably serve as a sample of the entire city.

Among the several analyses to which the artifacts would be subjected in this project were several which deal with the notion of socio-economic status of the owner or user. We therefore decided to try to define other indicators of status to which the artifact analysis could be compared. We wanted to find out which status groups were the major property owners, and which ones were renters; and we wanted to find out whether status or some correlate of status determined living patterns in Wilmington.

Because occupation has been closely tied to status, we decided to use occupation as a kind of quick-and-dirty status

indicator. We broke the population into nine rather coarsely defined occupational categories, using a scheme modelled after the one developed by historian Stephan Thernstrom and based on the 1880 St. Louis, Mo. census. We had to make some modifications to Thernstrom's scheme. First, because of limits imposed by our database system's capacity, we had to drop the second digit from the original code scheme. Second, we moved leatherdressers and coopers from Thernstrom's semiskilled category and placed them in the skilled worker category because of the importance of milling and morocco leather manufacture in Wilmington's economy. Third, we dispersed people who fell into Thernstrom's "female occupations" category into the general category for those occupations regardless of sex. Thus, a female shopkeeper, for instance, received the same occupational code as a male shopkeeper; and we were able then to assign the vacated code to persons whose occupation was not listed.

It turned out that our category 9, "no occupation listed", was something of an artifact of the records, and had to be dropped from the most of the analysis. In the directories, most of the people who had no occupation were white women and probably widows, while there was no discernible pattern to the omission of a party's occupation from the deed record, save that most of the women who

appeared as grantors or grantees were identified as executrix of their husbands' estates. That is a legal function, and not an occupation.

We then compared histograms of percentage of each population - the general population based on the directory samples, and the landowning popultion, based on the deed record - which fell into each of the eight remaining categories. * A consistent pattern emerged, which this comparison of the 1860 percentages illustrates. The proportion of each population which fell into the middle categories of "semiprofessionals", "petty merchants", "clerical worker", and "skilled worker", was approximately the same, varying only a percentage point or two. However, the top two categories, "professionals and high government officials", and "major merchants", were significantly overrepresented among landowners as compared to the general population, while the bottom two categories, "semiskilled workers" and "unskilled workers" were significantly underrepresented. While this does constitute proof of the obvious to some extent, it also indicates that there were definable upper, middle, and lower classes, at least in terms of property ownership. Although there are no good sources for the general population in the eighteenth century for comparison, the percentage profile of landowners' occupation

groups is not noticeably different from this one. Thus we believed, and still do, that occupation can be used as an easily obtained status indicator.

In order to find out whether status as suggested by occupation group related to where a person lived, we mapped the addresses of the people in the directory samples. We then drew lines around the areas where each occupational group clustered. The following maps show where these groups were, and how they moved through the city over time. Let me emphasize that these areas do not represent exclusive districts, but rather areas of concentradion. In the interest of uncluttering the maps, I have broken them down into manual occupations and nonmanual occupations, which is not entirely satisfactory. The maps strongly suggest that for the middle group, the manual or nonmanual nature of the person's occupation did not materially influence where these people lived; however, there were decided differences in concentrations of the upper and lower occupational groups.

It is unfortunate that we do not have residential data on non-property owning groups in the eighteenth century, but by 1814, the geographic distribution of occupational groups had taken a definite shape. This map of nonmanual workers in 1814 shows that the areas occupied by this class of workers

was decidedly linear and tended to hug Market Street and the commercial blocks between Mulberry Dock and Tatnall Street. Merchants located along Market, Front,and Second Streets, while professionals, officials, and other nonmanual workers occupied an area that was somewhat less tightly defined but still linearly aligned to Market and the parallel adjacent streets. The concentration of nonmanual workers skirted the steep slope that lies between West, Tatnall, Front, and Fourth Streets, and did not extend to the east beyond French Street.

* By 1845, people with nonmanual occupations had moved into an area formerly occupied in 1814 mostly by manual workers. This was not so much a process of displacement as it was a process of interspersal. There was, however, a noticeably sharper delineation among categories of nonmanual workers in the sample. The division was sharpest between major merchants and lower-level white collar workers. The former concentrated almost entirely west of King Street while the latter concentrated east of Market Street. Professionals and officials still hugged Market Street and the three blocks on either side.

Proprietors and small retailers were interspersed throughout the area occupied by other nonmanual categories.

It seems fair to attribute this even distribution to the local-service nature of this kind of shop, and its dependence on a walk-in trade. It is worth noting, however, that several of the small shops along Front Street depended on a more than immediately local trade, and their business bordered on wholesaling.

* As late as 1860 the arrangement of persons with nonmanual occupations in a linear pattern centered on Market Street was still visible in the directory sample. Professionals, high officials, and major merchants had extended slightly westward, with a new concentration of these categories along West Front and West Second Streets. A second concentration of these persons appeared for the first time on the east side of town, but it is not entirely clear whether these were indeed residences, and may have been places of business.

Lower-level nonmanual workers had moved up the hillside, away from the area around French Street where they had concentrated in 1845. Retailers and small merchants had extended their area of concentration as far as 13th Street, but had also begun to shift somewhat to the west of their old neighborhood. These people also had withdrawn from the area around French and Walnut Streets, leaving a small pocket of

proprietors in the same general area as the new concentration of upper-level nonmanual workers. The area of small merchants which had appeared around Front and West Streets in 1845 had expanded by 1860, and a new concentration of this category had developed in the part of Wilmington known today as Quaker Hill, centered around 6th and Washington Streets.

* The occupational group maps of the 1870 sample show that a change in residential patterns had begun during the decade of the Civil War. For the first time there was a clear separation in the areas occupied by the various categories of nonmanual workers. In the main, the top categories, the professionals, government officials, and major merchants had occupied the ridge of high land which extends from the middle of Market Street to 9th Street, as far west as Jefferson Street, and as far south as Second and West Streets. By now, none lived east of Market Street. Minor proprietors and retailers, on the other hand, lived entirely east of Shipley Street. A second, smaller pocket of small merchants lived in the area of 7th and Poplar. Low-level nonmanual workers concentrated in an area very similar to the area occupied by small merechants and proprietors, but tended to live about a block further north.

* The decades between 1870 and 1890 saw a major change in Wilmington's social geography, at least with respect to the residence location of occupational groups. Even as late as 1870 there had been a considerable intermixture of both manual and nonmanual workers, with skilled workers forming a matrix in which clusters of the other categories concentrated in definable areas. By 1890, however, there was a clear difference between the areas occupied by manual workers and the areas occupied by nonmanual workers.

By 1890, all of the nonmanual occupation categories except for small retailers occupied an area that included their previous neighborhoods, but had expanded tremendously towards the new western suburbs and along Delaware Avenue. Within this large area, there was not much noticeable differentiation among nonmanual workers. That suggests a possible breakdown of this classification scheme at the end of the century, perhaps occasioned by a rise in both the number and the proportion of nonmanual workers in the city. Small retailers and proprietors were spread evenly in an area bounded by the railroad tracks, and encompassing most of the central part of Wilmington. Their absence from Delaware Avenue is noticeable, and it points out the nearly exclusively residential character of the suburbs.

The residence patterns of manual workers were somewhat different from those of those of nonmanual workers. Until within the last twenty years of the nineteenth century, manual workers occupied a much larger geographic area than did nonmanual workers, including the steep hill on the west edge of town and the bottom lands along the Christiana and Mulberry Dock.

* In 1814, manual workers almost completely surrounded nonmanual workers except for the end of Market Street nearest the Brandywine. Skilled tradesmen, however, tended to reside west of Market Street and unskilled workers resided east of Market Street with the exception of two small pockets of mostly Black unskilled workers in the areas of Front and West and 6th and West Streets. Semiskilled workers appeared in a loosely defined area approximately three blocks either side of Market Street, between the Christina and 9th Street.

* Manual workers in 1845 occupied a larger geographical area than did nonmanual workers. Skilled workers concentrated in two virtually contiguous areas, one where Market Street crossed the Brandywine, and a larger one which actually encompassed most of the inhabited part of Wilmington. Skilled workers within this larger area were interspersed among persons with nonmanual trades.

There were some concentrations of trades within the larger area occupied by skilled workers. Most of the skilled tradesmen near the Brandywine were millers. The skilled millers of the Brandywine probably more nearly resembled a managerial class than they did the ordinary run of tradesman such as tailors or coopers. Persons occupied in the building trades concentrated in the southeasterly corner of Wilmington, around the lower end of French Street. These tradesmen lived interspersed with low-level nonmanual workers and semiskilled workers.

Unskilled workers, mostly laborers, occupied four distinct districts in 1845. One was in the area along Front and Second Streets from Market to about Jefferson Street, in the project area. These persons probably were employed in the heavy industries and rairoad support facilities which were growing up along the Christina between the river and the railroad. Similarly, a cluster of unskilled workers who lived in the area near the Brandywine were probably employed at the mills. The other two districts of unskilled workers residences lay just east and just west of Market Street between 5th and 8th Streets.

* The 1860 sample included two concentrations of manual

workers which are "off the map" for this study. The incorporation of Brandywine Village addresses in the directory produced a cluster of mill workers who lived above the Brandywine. Also, a few manual workers appeared west of Madison Street. The map shows that manual workers' neighborhoods were in a state of flux. The concentration of skilled and unskilled workers below the Brandywine had shrunk considerably, while the realignment of manual workers to the industrial area along the Christina was increasing. Skilled workers were no longer moving up Market Street, but they were expanding to the east and west.

Semiskilled workers occupied an area almost exactly contiguous with skilled workers east of Shipley Street. They also appeared in a small cluster around West Street, which had previously and consistently been a neighborhood of unskilled workers. The appearance of a concentration of unskilled workers in the area encompassing the feet of King, French, and Walnut Streets, coupled with the withdrawl of both small merchants and low-level nonmanual workers from that area seems to mark the beginning of a major change in the area near the railroad tracks. This area had always housed some laborers and other unskilled workers, but by 1860 skilled workers and nonmanual workers had largely removed themselves from these blocks, leaving predominantly

semiskilled and unskilled people. Because these categories are underrepresented in the sample of landowners, this seems to mark a transition from owner-occupancy to tenant-occupancy in the area just to the east of the project area.

The two concentrations of unskilled workers on either side of Market Street and centered around 6th Street expanded noticeably between 1845 nd 1860. Only the most easterly and most westerly peripheries of these areas were exclusively or nearly exclusively laborers' neighborhoods, however; most unskilled workers lived interspersed with other manual workers. Moreover, the center of town, from Water Street to 10th Street, and from Washington Street to Lombard Street contained a fairly even mixture of all classes of occupation.

* In 1870, both skilled and unskilled workers were scatterred fairly evenly about the city. The outline of the area occupied by these workers coincides closely with the outline of the occupied parts of Wilmington shown in the 1868 Beers Atlas. The atlas shows small factories dotting the city, which probably explains the dispersal of manual workers.

Curiously, semiskilled workers appeared only in the area

between Market and Madison Streets in a roughly triangular concentration. This probably reflects the expansion of the Harlan and Hollingsworth and Pusey and Jones Shipyards during the Civil War.

A small cluster of unskilled workers appeared in the previously largely vacant land near Trinity Church. Their neighborhood lay between the city's rather large brickyards on 12th Street and several industries which had clustered around the railroad. These industries included the Jackson and Sharp Car Works and the Philadelphia, Wilmington,and Baltimore Railroad repair and maintenance yards.

The beginnings of the modern notiion of distinct "blue collar" and "white collar" neighborhoods had developed by 1890, when a clear separation between the living areas of manual workers and those of nonmanual workers appeared. Approximately three-quarters of the manual workers in the sample, including all the semiskilled and unskilled workers, lived within about a quarter-mile of the railroad. Semiskilled workers appeared in two pockets on the eastern and western end of the working-class neighborhood, on what was probably less desirable lowground or steep hillside. Only one pocket of unskilled workers appeared in this sample, at the far west end of the area beyond Justison Street.

This change in residential patterns is certainly partially attributable to the rapid growth of heavy industry along the Christina after the Civil War. In 1880, four major manufacturers employed approximately half the work force. These industries were located in the area between the Christina and the railroad tracks; their workforce lived nearby.

Manual workers, especially skilled workers, consistently occupied a geographically larger area than any other category until some time between 1870 and 1890. The higher-status categories of nonmanual workers tended to hug Market Street, not dispersing from that alignment until the beginning of the period of heavy industrialization after the Civil War. This alignment produced a variant of "ring" city, but the Christina effectively cut off one side of the ring producing instead a group of nested V's. The last twenty years of the nineteenth century saw the city's boundaries expand considerably, so that Wilmington occupied all the habitable land on the neck between the Brandywine and the Christina. Although the city's commercial center remained in the area of Tenth and Market Streets, its residential center had shifted decidedly to the west. Thus, the project area no longer cut across the city to its core, but shaved off part of the edge.

* The project area, therefore, does include samples of the major categories of occupation groups and both landowning and nonlandowning groups. The higher status occupations, from merchants to skilled workers, were located primarily on the blocks from Market Street to about Orange Street, which is nearly in the middle of the area. From Tatnall Street to Justison Street, the residents' occupations tended to fall into the lower categories.

After the Civil War, there was a noticeable change in the occupations of residents of the whole project area. Persons in the top two occupational categories had begun to leave the area around Front Street fairly early in the nineteenth century, but after the middle of the century, this area was almost devoid of these groups. A slight rise in the occupational status of residents of the west end of the project area coincided with the development of major industry, which needed skilled as well as unskilled labor. But by the end of the century, the entire area was occupied by wage-earning labor, largely skilled, but clearly segregated from the nonmanual workers among whom they had formerly lived. There were a number of social forces at work to produce this dramatic shift in residential pattern, such as immigration;

but their dynamics are beyond the scope of this project.

Physical descriptions and the value of the properties as described in the deed records provided yet another point of comparison with the rest of the city. Although the two blocks at the western end of the project were slower to develop than the five more easterly blocks, once subdivision began, the lots quickly took on similar appearances. Most of the buildings were attached, and party wall easements are common throughout the city. Lots in the project area were generally very close to the mean lot size for Wilmington, within one or two tenths of a standard deviation below the mean in all the sample years. Land value, computed by dividing selling price by square footage, was also usually close to the city's mean. There was a drop during the boom along the Brandywine, but it was not especially significant. The selling price itself, however, was very sensitive to a myriad of economic factors. During the early years of the nineteenth century, around the War of 1812 and after, the selling price of Front Street properties plummeted in comparison to the rest of Wilmington, in one case to a spectacular fifteen standard deviations below the mean. Because relative value and size remained fairly constant, one must suspect that there was a lot of heavy speculation occurring in other parts of the city, such as the sale of

very large new tracts for subdivision.

Within the project area, the relationships among the blocks in terms of selling price and value remained constant during the years for which we took price data - 1735 through 1860. Lots on the easterly four blocks, which include two which face on Market Street, were consistently more valuable and more expensive than lots on the westerly three. Because of these consistencies, we believed that we could describe the similarities and dissimilarities among the blocks adequately for our purposes with just the 1845 assessment.

In the 1845 assessment, there were strong relationships between street face and the type and size of building on the lot. Market Street in 1845 sported mostly brick, mostly two and three storied houses, while at the far end of the area, Washington and Justison Streets contained mostly frame two-story buildings with occasional one-story shanties. The change in occupational status of this end of the street in the 1860's was accompanied by a rebuilding. The frame houses were largely (but not entirely) replaced with two-story masonry buildings. There were significantly fewer owner-occupied properties in the western part of the area than in the easten part.

These neighborhood gradations were not sudden. Differences in lot value between any block and its immediate neighbor on either side were not statistically significant. However an analysis of variance of the value of properties over the whole seven-block area did show a significant difference between the high-value properties on Market Street, which ranged in the neighborhood of $2000 - $3500, and the low-value properties which ranged in the neighborhood of $500. The property values showed a distinctly bimodal distribution, with one peak at about $1500 and the other at about $2500.

The project area showed one other strong consistency which we believe may be projected over the city as a whole. We were surprised that there was no correlation between duration of ownership of lots and any other measurable factor, so we plotted a scattergram of length of ownership. It turned out that over the entire 170-year time span, and over the whole project area, properties tended to be held for 18-19 years. The periods in which that broke down were closely correlated with known factors, the development of Brandywine water power, for instance, or the Civil War. The most severe disruption came at the end of the nineteenth century, coincident with the segregation of the working class into a distinct, compact neighborhood. Those are situations

which one would expect to produce high speculation activity and some social instability.

In sum, we have a project area which by great good fortune, does contain a surprisingly broad range of the general types of occupation, neighborhood, and population which was present witnin Wilmington through most of the city's history. It is representative of the entire city to a surprisingly high degree, at least for the period up to the Civil War. After that time, the area underwent rather severe social levelling, as the result of major social, economical, and geographical changes within the entire city. It was no longer representative of the city after about 1870, but still contained remnants of its historic internal relationship.